DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with John R. Lastova on 01/26/2010.

3. The application has been amended as follows:

Claim 1. (Currently Amended) A method of calibrating a transmitting part of a node in a wireless communication network, which communication network comprises at least a first radio node and a second radio node which can be arranged to be in radio communication with each other, and wherein at least one radio node receives radio signals from multiple antennas, said calibration method comprises the steps of

-transmitting first pilots signals both from the first radio node to the second radio node and from the second radio node to the first radio node;

-determining in the second radio node a first estimate of the channel characteristics from the first radio node to the second radio node, and in the first radio node determining a second estimate of the channel characteristics from the second radio node to the first radio node, said determining based on respective received first pilot signals;

-calculating at least one channel correction factor in the first radio node based on the first and second channel estimates,

-transmitting a modified second pilot signal from the first radio node to the second radio node, said modification based on the second channel estimate;

-estimating transmission errors in the second radio node, said estimation based on the first channel estimate and the received second pilot signal and calculating a correction vector with correction terms for each of the multiple antennas based on the transmission errors;

-exchanging the correction vector from the second radio node to the first radio node; and

in that the step of calculating correction factors comprises calculating one correction factor for each antenna, the correction factors are based at least partly on the respective correction terms in the correction vector, said correction factors adapted for use in transmissions from the first radio node to the second radio node.

Claim 2. (Currently Amended) Calibration method according to claim **Error! Reference source not found.**, wherein the calibration method is initiated in predetermined time intervals.

Claim 15. (Currently Amended) A communication system for wireless communication, the system comprising at least a first radio node and a second radio node which can be arranged to be in radio communication with each other, at least one radio node can receive radio signals from multiple antennas wherein the first radio node is calibrated with the aid of the second radio node, the communication system comprising apparatus configured to:

- transmit first pilots signals both from the first radio node to the second radio node and from the second radio node to the first radio node;

- determine in the second radio node a first estimate of the channel characteristics from the first radio node to the second radio node, and in the first radio node, determine a second estimate of the channel characteristics from the second radio node to the first radio node, said determining

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being based on respective received first pilot signals;

- calculate at least one channel correction factor in the first radio node based on the first and second channel estimates,

- transmit a modified second pilot signal from the first radio node to the second radio node, said modification based on the second channel estimate;

- estimate transmission errors in the second radio node, said estimation being based on the first channel estimate and the received second pilot signal, and calculate a correction vector with correction terms for each of the multiple antennas based on the transmission errors;

- exchange the correction vector from the second radio node to the first radio node; and

wherein calculating correction factors includes calculating one correction factor for each antenna, the correction factors being based at least partly on correction terms in the corresponding correction vector, said correction factors being adapted for use in transmissions from the first radio node to the second radio node.

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Claim 17. (Currently Amended) A radio node adapted for wireless communication in a wireless network, which network comprises at least one further radio node, the radio node comprises:

-an exchanging module adapted for receiving at least one first radio channel estimate from at least the further radio node;

-a channel estimating module adapted for producing a second radio channel estimate from a radio signal received by the radio node;

-a calculating module adapted for calculating a correction vector/term or a representation of a radio channel estimates based on the received first radio channel estimate and the second radio

channel estimate; and

-a compensating module for compensating radio transmissions from the radio node with at least one correction factor which is at least partly based on the calculated calibration,

-a pilot transmitting module adapted for controlling the transmission of first pilot signal and a second pilot signal, wherein the second pilot signal is modified with the second radio channel estimate.

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Allowable Subject Matter

4. Claims 1-23 are allowed.

Regarding independent claims 1 and 15, Lindskog et al. (US 7,039,016 B1) and Sampath (US 2003/0224750 A1) all disclose calibrating a transmitting part of a node in a wireless communication network, which communication network comprises at least a first radio node and a second radio node which can be arranged to be in radio communication with each other, and wherein at least one radio node receives radio signals from multiple antennas. The above prior art of record, however, fail to disclose or render obvious estimating transmission errors in the second radio node, said estimation based on the first channel estimate and the received second pilot signal and calculating a correction vector with correction terms for each of the multiple antennas based on the transmission errors; exchanging the correction vector from the second radio node to the first radio node; and in that the step of calculating correction factors comprises calculating one correction factor for each antenna, the correction factors are based at least partly on the respective correction terms in the correction vector, said correction factors adapted for use in transmissions from the first radio node to the second radio node as specified in the claims.

Regarding claim 17, Lindskog et al. (US 7,039,016 B1) and Sampath (US 2003/0224750 A1) all disclose a radio node adapted for wireless communication in a wireless network, which network comprises at least one further radio node, the radio node comprises:an exchanging module adapted for receiving at least one first radio channel estimate from at least the further radio node;a channel estimating module adapted for producing a second radio channel estimate from a radio signal received by the radio node; and a pilot transmitting module adapted for controlling the transmission of first pilot signal and a second pilot signal, wherein the second pilot signal is modified with the second radio channel estimate. The above prior art of record, however, fail to disclose or render obvious a calculating module adapted for calculating a correction vector/term or a representation of a radio channel estimates based on the received first radio channel estimate and the second radio channel estimate; and a compensating module for compensating radio transmissions from the radio node with at least one correction factor which is at least partly based on the calculated calibration, as specified in the claims.

Claims 2-14 depend on claim 1. Therefore, they are allowable.

Claims 16 depends on claim 15. Therefore, it is allowable.

Claims 18-23 depend on claim 17. Therefore, they are allowable.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID Q. NGUYEN whose telephone number is (571)272-7844. The examiner can normally be reached on 8:30AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lao LunYi can be reached on (571)272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Q Nguyen/
Primary Examiner, Art Unit 2617